

Visvesvaraya Technological University, Belagavi
CBCS Scheme: 2015-16

Model Question Paper

Virtual Bio-Instrumentation (15BM562)

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module 1

1. a. With figure, explain Graphical System Design Model. (08 Marks)
b. With Palettes, explain Front panel and Block diagram windows in LabVIEW. (08 Marks)

OR

2. a. Discuss Virtual Instrumentation for Test, Control and Design. (07 Marks)
b. Explain controls and indicators in LabVIEW. (04 Marks)
c. List the objects of Block diagram and explain any two objects of Block diagram in LabVIEW. (05 Marks)

Module 2

3. a. Define Module. Explain Modular Programming in LabVIEW. (05 Marks)
b. With necessary figures, explain the significance of Resolution, Range, Gain and Code width in measurement system. (08 Marks)
c. Explain Ground Loop phenomenon. (03 Marks)

OR

4. a. Write a note on ICON and CONNECTOR PANE in LabVIEW. (05 Marks)
b. Explain the creation of a stand-alone application in LabVIEW. (05 Marks)
c. What is Task in LabVIEW? Explain the method of creating and using a Task. (06 Marks)

Module 3

5. a. Explain computer based Data Acquisition System. (04 Marks)
b. Discuss the Staircase or Treppe and Tetanus phenomena in Neuromuscular Electrophysiology (Electromyography). (04 Marks)
c. Discuss the analysis of Heart Rate Variability using LabVIEW. (04 Marks)
d. Write a note on Cardiopulmonary measurement system. (04 Marks)

OR

6. a. Describe Data Logging and Event Logging features of BioBench. **(04 Marks)**
b. Discuss Nerve muscle preparation method in Neuromuscular Electrophysiology. **(05 Marks)**
c. Define Vectorcardiogram. Give the schematic representation of ECG lead placement according to Einthoven's Triangle. **(03 Marks)**
d. Discuss the clinical significance of Cardiopulmonary measurement system using LabVIEW. **(04 Marks)**

Module 4

7. a. What is Endotester? Discuss the materials and methods used in Endotester. **(06 Marks)**
b. Explain the following Endoscope tests:
i) Reflective Symmetry ii) Modulation Transfer Function **(06 Marks)**
c. Describe Training Emulator in Fluid Sense Innovative IV Pump test using LabVIEW. **(04 Marks)**

OR

8. a. Write a note on Endotester. **(05 Marks)**
b. List the types of Endoscope tests. Discuss any two Endoscope tests. **(06 Marks)**
c. Explain Fluid Sense Innovative IV Pump test using LabVIEW. **(05 Marks)**

Module 5

9. a. Explain the following terms:
i) Electronic Medical Record ii) Decision Support iii) Patient Monitoring
iv) Dynamic Link Libraries **(16 Marks)**

OR

10. a. Explain the role Computers in Medicine. **(05 Marks)**
b. Write a note on Medical Imaging. **(06 Marks)**
c. Explain ActiveX Technology. **(05 Marks)**

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